

## **REMARKS**

Claims 14-35, 37-46 and 49-53 are rejected. Claims 14-35, 37-46 and 49-51 have been amended. Claims 52 and 53 have been canceled. Claims 14-35, 37-46 and 49-51 are presently pending in the application.

The basis for the amendment of the claims is found in claims 35 and 46 as originally filed, as well as page 23, lines 18 to 28 of the specification. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

### **Specification:**

The Examiner has acknowledged the amendment to the specification cross-referencing other pending applications, but further points out that the Attorney's Docket Number should be deleted from the paragraph. The Docket Number has been deleted as requested.

### **Double Patenting:**

The Examiner has provisionally rejected Claims 14-35, 37-46, 49-51 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-7, 8-46 of copending Application No. 10/008428, since the conflicting claims, which disclose an imaging member containing a matrix polymer and a clay intercalated with block copolymer containing a block compatible with clay that is hydrophilic and a block that is compatible with matrix polymer that is hydrophobic, are not identical, they are not patentably distinct from each other because of the following explanation and, therefore, in view of the above disclosure, it would have been obvious to one having ordinary skill in the art, that when utilizing claims of the present invention one would arrive at the claims of '428 now allowed.

A terminal disclaimer with respect to copending Application No. 10/008428 is attached.

### **Double Patenting:**

The Examiner has provisionally rejected Claims 14-35, 37-46, 49-53 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-15, 17, 19-50 of copending Application No.

10/006545, since the conflicting claims, which disclose a composition for a molded article comprising a matrix polymer and clay wherein clay is intercalated with block copolymer having one block that is hydrophilic and compatible with clay and a second block compatible with matrix polymer, are not identical, they are not patentably distinct from each other, therefore, in the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention that when utilizing claims of present invention one would arrive at the claims of '545.

A terminal disclaimer relating to copending Application No. 10/006545 has been attached.

**Rejection Of Claims 14-35, 37-46 and 49-53 Under 35 U.S.C. §103(a):**

The Examiner has rejected Claims 14-35, 37-46 and 49-53 under 35 U.S.C. 103(a) as being unpatentable over FISCHER (US 6,579,927), as the prior art of FISCHER discloses composition for nanocomposite material comprising block copolymer, clay and matrix copolymer, the block copolymer of FISCHER has block (A) compatible with the clay component and block (B) compatible with the matrix resin. block (A) is of hydrophilic nature and it includes polyethylene oxide and the number average molecular weight of the polyethylene oxide is in a range of 100-5,000, structural unit (B) is compatible with matrix polymer and can have the same monomers as the matrix polymer, one of which may be polyamides as one of the species of structural unit (B), including the number average molecular weight of the polyamides would then be 100-20,000. The Examiner also indicates that the polyether segment of the block or graft co-polymer of the prior art of FISCHER has at least 2 monomeric units and polyamide segment has the same or larger amount of monomers as polyether segment, the segment (A) contains 5-20 monomeric units and therefore the ratio between polyether segment and polyamide segment is in a range of 1:1 - 95:1 to 1:1 - 1:95, the matrix polymer of the prior art of FISCHER is selected from polyesters such as polyethylene terephthalate, polyamides, polyolefins such as polyethylene or polypropylene and the like, the clay component is smectite clay either natural or synthetic and it is selected from clays such as montmorillonite, the clay is utilized in an amount ratio of 0.01-1 to 100:1 with the block copolymer, the ratio of clay to matrix polymer is 1:200 to 2:1, based on the ratios

depicted by the prior art of FISCHER, the amount of matrix polymer is at least 50%, the clay component is first modified with block copolymer and mixed with suitable matrix polymer to form nanocomposite, intercalation of the block component between the clay platelet is a well-known process, which occurs in his type or reaction and upon shearing action with matrix polymer such clay can further exfoliate, the resulting composition has tensile modulus higher by 10 - 100 % (examples 1 and N), the components of the prior art of FISCHER overlap with the components of the present invention in both types of polymers and clays and the amounts, the limitation of the surface resistivity would also overlap, the prior art of FISCHER discloses that already patented composition can be utilized to make any type of molded article and the composition of the prior art of FISCHER discloses PEO/PA block or graft copolymers intercalated in between the clay component and mixed with matrix polymer to form a moldable article. Therefore, the Examiner indicates that, in the light of the above discussion, it would have been obvious for one having ordinary skill in the art at the time of the instant invention to utilize the prior art of FISCHER and thereby obtain the claimed invention. The prior art of FISCHER renders the present invention obvious because it teaches and thereby suggests using PEO and PA as block of one copolymer.

Fischer discloses a nanocomposite material on the basis of clay having a layered structure and a cation exchange capacity of from 30-250 milliequivalents per 100 gram, a polymeric matrix and a block copolymer or a graft copolymer, which block copolymer or graft copolymer comprises one or more first structural units (A), which are compatible with the clay and one or more second structural units (B), which are compatible with the polymeric matrix. Fischer fails to disclose the use of the nanocomposite material in an extruded imaging support. Fischer also fails to disclose the use of polyamide polymers that can be utilized to make polyether block polyamide copolymers capable of intercalating clay.

The present invention relates to an extruded imaging element comprising a support of intercalated clay intercalated with a polyether block polyamide copolymer.

To establish a prima facia case of obviousness requires, first, there must be some suggestion or motivation, either in the reference itself, or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

Fischer teaches nanocomposite materials comprising block copolymer, clay and matrix copolymer, the block copolymer of FISCHER has hydrophilic block (A) compatible, including polyethylene, with the clay component and block (B) compatible with the matrix resin and having the same monomers as the matrix polymer, one of which may be polyamides for use in packaging and construction materials. Fischer fails to mention the use of intercalated clay, intercalated with a polyether block polyamide copolymer, for use as an extruded base or support for an imaging element. As a result, Fischer fails to suggest modification of the reference to produce an extruded base for an imaging element comprising intercalated clay, intercalated with a polyether block polyamide copolymer as presently claimed.

Fischer also offers no expectation that intercalated clay, intercalated with a polyether block polyamide copolymer, may be used as an extruded base or support for an imaging element. There are a very large number of clays, block copolymers and matrix copolymers disclosed in Fischer and known to those skilled in the art. Although FISCHER teaches that the nanocomposite composition of the prior art can be utilized to make molded articles of any kind, in the absence of any suggestion in Fischer to extrude an imaging base utilizing the claimed nanocomposite material, at most, it might only be "obvious to try" the combination of the present invention for extruding an imaging base. In addition, Fischer teaches in col.3, lines 61 to 66 that "*The structural units (B) are compatible with the polymeric matrix. By this is meant that these units in themselves, i.e. not in the copolymeric form with the structural units (A), are excellently mixable with the material of the polymeric matrix. It is also possible that the nature of the structural units (B) is the same as the nature of the polymeric matrix.*" In the present inventive example, polyethylene terephthalate is used as the matrix polymer. Polyamide and polyether are neither

“excellently mixable” nor of the “*same as the nature of the polymeric matrix*”, but are only marginally miscible in PET. Therefore, Fischer teaches away from the present invention. Therefore, there is no reasonable expectation of success found in the cited reference.

Finally, Fischer fails to make mention of imaging elements, uses therein, or production of an extruded imaging element. Therefore, Ferraro fails to include all of the limitations of the present claims.

In addition, the present invention provides a surprising result. As noted on page 28, lines 16 – 22, the intercalated clay, intercalated with a polyether block polyamide copolymer, as presently claimed has antistatic properties, a particularly useful property in photographic supports.

**Rejection Of Claims 14-35, 37-46 and 49-53 Under 35 U.S.C. §103(a):**

The Examiner also rejects Claims 49, 51 under 35 U.S.C. 103(a) as being unpatentable over FISCHER (US 6,579,927) as applied to claims 1-34, 37-45, 48-51 above, and further in view of KURATSUJI (US 5,939,183), as the difference between the present invention and the disclosure of the prior art of FISCHER is explicit limitations of the polyamide polymers that can be utilized to make PEO/PA block copolymers and KURATSUJI discloses PEO/PA block copolymer utilized in film forming, disclosing that the polyamide block is selected from monomers that are both aliphatic and aromatic, therefore, utilizing the polyamide made from the polymers of KURATSUJI allows one of ordinary skill in the art to form moldable and extrudable article and it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the PEO/PA copolymer of KURATSUJI and in the composition of FISCHER to obtain the claimed invention.

Kuratsuji discloses a plastic film possessing improved permeability to water vapor and high heat shielding property, which is characterized by water vapor permeability of 100 to 25, 000 g/m<sup>2</sup> /24 hr, light transmittance of 20 to 95% and infrared transmittance of 5 to 90% and made of at least one material selected from a group comprising polyetherpolyamide block copolymer, thermoplastic polyester elastomer and thermoplastic polyurethane and containing flat inorganic particles, preferably mica, coated with a substance having high refractive index,

particularly for agricultural uses, which cuts infrared rays to prevent elevation of interior temperature.. Kuratsuji fails to disclose extruded imaging bases for photographic application. Kuratsuji fails to mention clay particles or the intercalation of clay particles. Kuratsuji also fails to disclose any information relating to the use of polyether block polyamide copolymers to intercalate layered materials.

The present invention relates to an extruded imaging element comprising a support of intercalated clay intercalated with a polyether block polyamide copolymer.

The reference to Kuratsuji cited by the Examiner comprises non-analogous art. In order to rely on a reference as a basis for rejection of Applicant's invention, a reference must either be in the field of the Applicant's endeavor or reasonably pertain to the particular problem with which the invention is concerned. Here, the cited reference to Kuratsuji is not in Applicant's field of endeavor, that is, the extruded base of a photographic element. Neither is the references reasonably pertinent to intercalation or intercalation of clay with a polyether block polyamide copolymer, as Kuratsuji deals with mica and fails to mention intercalation.

Patent and Trademark Office Classification is some evidence of analogy, but similarities and differences in structure and function carry more weight. MPEP 2141.01(a). The reference to Kuratsuji cited by the Examiner is contained in a different classification than either the present invention or the reference to Fischer. Kuratsuji is contained in US Class 428/324 (Stock material or miscellaneous articles / Mica); Fischer is contained in 524/445 (Synthetic resins or natural rubbers -- part of the class 520 series / Clay, e.g., fullers earth, fire clay, etc.).

Critical differences exist in function between Applicant's invention, Fischer and Kuratsuji. The invention of Kuratsuji functions to cut infrared rays to prevent elevation of the interior temperature. The invention of Fischer functions to provide a modified clay for incorporation in a polymeric matrix for producing moldable articles. The present invention functions to produce a strong, extrudable base for imaging elements which also demonstrates properties important to photographic applications.

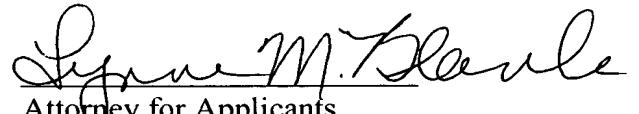
Further there are important structural differences between the present invention and the prior art which are evidence of non-analogousness. The invention of Kuratsuji relates to the use of specialty inorganic mica filler in polymer for agricultural usage. The invention of Fischer relates to nanocomposite materials formed by intercalating a clay with a copolymer for incorporation into a polymeric matrix for use in packaging and construction materials. The present invention relates to an intercalated clay for use as the extruded base of an imaging element. For example, Kuratsuji requires no intercalation of the inorganic filler. Neither the present invention nor Fischer would be operable without intercalation. Since the cited reference to Kuratsuji is contained in different Classifications, serves a different purpose and function and contains distinct structural differences, the Applicants respectfully suggest that the cited reference to Kuratsuji are non-analogous art, and do not support a rejection based on obviousness.

Assuming for argument, that the cited references are analogous art, consideration must be given to Applicant's invention and the references as suggested by the Examiner, when taken as a whole. In order to support a finding or *prima facia* obviousness, references must contain a suggestion or motivation to combine, must give some reasonable expectation of success, and must teach or suggest all claim limitations. As discussed above, the Applicants believe that Fischer fails to discuss or suggest the specific limitations of the present invention, fails to teach or suggest modification of the reference and fails to provide any likelihood of success. Kuratsuji also fails to teach or suggest modification of the references, either alone or combined, as Kuratsuji fails to teach intercalation, as well as failing to teach the intercalation of clay. In addition, Kuratsuji fails to supply any likelihood of success in intercalating clay for use in an extruded imaging element, since Kuratsuji teaches the use of un-intercalated mica. Finally, Kuratsuji fails to teach the intercalation of clay with a polyether block polyamide copolymer for use as an extruded imaging element.

Since the cited references when considered as a whole do not teach, suggest or disclose the present invention when considered as a whole with all limitations, the Applicants respectfully suggest that the cited references do not support a rejection based on obviousness.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,



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